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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on 8/10/09

Signature

Typed or printed name Carmen Pili Ekstrom

Application Number	Filed
10/613433	07/03/2003

First Named Inventor: Martinez

Art Unit	Examiner
2831	William Mayo

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- [ ] applicant/inventor.
- [ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- [x] attorney or agent of record. Registration number 34981
- [ ] attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Signature

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8/10/09
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NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

[3] *Total of 3 forms are submitted.

Objections

The Examiner objected to the limitations "second polyethylene film" in claim 71; "external conductor" in claim 72; "moisture protection elements" in claim 74; and external cover" in claim 75 as being indefinite.

The "second polyethylene film" in Claim 71 is definite. Claim 68 recited the second polyethylene film as the reinforcement layer with same characteristics as the 1st layer. The specification provides "the diameter of the third layer is similar to 1st layer with a 13.0±0.10 mm dia." See page 4, lines 14-16; page 6, lines 17-25;page 13, lines 15-24.

The "external conductor" in Claim 72 is definite. Claim 72 recited the external conductor is formed by tape made of an aluminum or copper alloy or combined with other elements." The specification provides "the external conductor has a thickness of 0.34 mm and 13.7±0.1 mm dia." See page 4, lines 17-20;page 6, line 25 to page 7, lines 1-8;page 14, lines 3-5.

The "moisture protection elements" in Claim 74 is definite. Claim 74 recites the water penetration protective element keep the conductor dry. The specification provides that the absorption speed is ≥ 15 ml/g per minute and their absorption capacity is over 30 ml/g. See page 4, lines 22-24; page 7, lines 8-15; and page 14, lines 5-9.

The "external cover" in Claim 75 is definite. Claim 75 recites the protective cover is based on low, medium, high density polyethylene or a combination thereof. The specification provides that the cover is 15.5 mm ±0.10 mm with 0.67 mm ±0.02 mm thickness. See page 4, lines 25 to page 5, lines 1-3; page 7, lines 16-25; and page 14, lines 17-18.

Applicants submit that claim indefiniteness is analyzed "*not in a vacuum*, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by a person possessing the ordinary level of skill in the pertinent art (POSA);" the **failure to provide explicit antecedent basis for a term does not always render the claim indefinite**. *Energizer Holdings, Inc. v. ITC*, 77 USPQ 2d 1625 (Fed. Cir.2006) quoting *In re Moore*, 169 USPQ 236 (CCPA 1971). A claim containing terms which are seemingly vague is not indefinite if it is **precise when read in the context of the specification**. *Charvat v. Comnr. Pats.*, 182 USPQ 577 (1974). From the above, in light of the disclosure of the terms in the specification, Applicants submit that the limitations are definite. The Examiner's objections should be withdrawn.

35 U.S.C. 103

The rejection of the claims under 35 U.S.C. § 103 should be reversed because there are no references in the prior art that taken individually or together disclose all of the elements of the present invention, motivate or suggest the present invention, or provide a reasonable expectation of success.

I. TRANSITIONAL PHRASE "CONSISTING OF"

The Examiner incorrectly interpreted claim language by ignoring the fact that Applicants amended the transitional phrase of Claim 1 to **"closed-ended" language, "consisting of."** The Examiner failed to consider all the claim limitations of the Applicant's cable. It is submitted that the limitations are an objective indicia of non-obviousness.

MPEP §2111.03 provides that transitional phrase **"consisting of" excludes any element, step, or ingredient not specified in the claim.** *In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("consisting of" defined as "closing the claim to the inclusion of materials other than those recited except for impurities ordinarily associated therewith."). It is submitted that the phrase **"consisting of" narrows the scope of the presently claimed invention.** See Claims 68-75. The claims directed to dry coaxial cable and manufacturing method thereof are narrowed to the recited elements or embodiments (or steps) and **nothing more**. Applicant submits that the **introduction of other components or additional steps would materially change the characteristics or properties** of Applicant's presently claimed invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also *Ex parte Hoffman*, 12 USPQ2d 1061, 1063-64 (BPAI 1989).

In contrast, the term **"comprising"** is "open ended " or inclusive. In effect, **comprising is a shorthand way of saying "including the following elements but not excluding others."** For example, a claim to a combination **comprising** A + B covers a combination having A + B + C. The term **"consisting of"** is a closed term. Thus, a combination **consisting** of A + B **does not cover** the combination A + B + C. A closed language **excludes** more than traces of other ingredients.

Applicants have compared and identified the elements that are required in the presently claimed invention and the cited prior art. See attached Table. As demonstrated in the Table, Belli and Goehlich used transitional phrase **"comprising"** which is open ended and inclusive. Chan employs the transitional phrase **"having."** Case laws interpreted the term "having" as **"open terminology,"** allowing the inclusion of other components in addition to those recited; *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l Inc.*, 246 F.3d 1336, 1348, 57 USPQ2d 1953, 1959 (Fed. Cir. 2001). Transitional phrases such as "having" must be interpreted in light of the specification to determine whether open or closed claim language is intended. See, e.g., *Lampi Corp. v. American Power Products Inc.*, 228 F.3d 1365, 1376, 56 USPQ2d 1445, 1453 (Fed. Cir. 2000). In light of the specification, it is submitted that Chan intended claims and disclosure to be open ended or inclusive.

II. UNOBVIOUSNESS OF THE APPLICANTS' CLAIMS

The structure, material, configuration and properties of the presently claimed dry, water resistant coaxial cable are different and unobvious over the cited prior art.

Chan et al. (U.S. 5486648)

First, the key requirement of Chan et al. is **presence of** concentric neutral wires (CN) in its cable to prevent water penetration. The disclosure of Chan made it clear that CN was an essential element. CN wires were not required in Applicant's cable. A POSA familiar with the problems of water penetration in cables understood that CN wires are not equivalent to or could not be substituted for external conductor (**15**) because the transitional phrase "**consisting of**" does not allow for the presence of CN wires. The "comprising" language in Chan requires CN wires and other elements which are not required in Applicant's cable. **The Examiner ignored the transitional phrase "consisting of."** The scope of the claims is *limited* to the designated elements, configuration or material of the coaxial cable, as well as the position of each of the elements as recited and nothing more. Second, the semi-conductor shield layer (**2**) of Chan **required** polymeric compound such as crosslinked polyolefin (XLPE)[1], ethylene propylene rubber (EPR) or ethylene vinyl acetate (EVA). In contrast, the structure of Applicant's cable required low density polyethylene (LDPE)[2] It is submitted that the use of thermoplastic rubber provides different properties on the resulting product. Third, Chan required water swellable element WSE (5) such as **yarn, filament, strand or strip** in combination with swelling agent such as polyacrylamide, starch graft copolymer of polyacrylic acid, and carboxy methylcellulose. WSE (**5**) in contact with the CN wires to block the passage of water within the cable in the longitudinal direction. Chan teaches away from the present invention because the Applicant's cable required the use of **fibers or tapes** for water protection element (**16**). Chan required yarns, filament or strip in order to maintain contact with insulation shield. Note col. 3, lines 56-63.

Goehlich (U.S. 6,784,371)

First, Goehlich is directed to power cables **comprising** a cable core, inner cable sheath, an outer sheath and a **sensor**. Goehlich's cable has a totally different configuration as compared to the Applicant's cable. Goehlich **requires a sensor** for detecting a detectable substance inside

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[1] **XLPE** a medium- to high-density polyethylene containing cross-link bonds introduced into the polymer structure, changing the thermoplast into an **elastomer**. The high-temperature properties of the polymer are improved, its flow is reduced and its chemical resistance is enhanced. In polymer chemistry, when a synthetic polymer is said to be "**crosslinked**", it usually means that the **entire bulk** of the polymer has been exposed to the crosslinking method.

[2] **LDPE** is defined by a density range of 0.910–0.940 g/cm^3. LDPE has a high degree of short and long chain branching, which means that the chains do not pack into the crystal structure as well. It has, therefore, less strong intermolecular forces as the instantaneous-dipole induced-dipole attraction is less. This results in a lower tensile strength and increased ductility. LDPE is created by free radical polymerization. The high degree of branching with long chains gives molten LDPE unique and desirable flow properties.

the cable. Second, Goehlich **requires** a "structured material" (SM) between the inner cable sheath and the outer sheath. Similarly, the structured materials are disclosed from an **infinite list**, preferably swellable material; self adhesive; tape combination; sputtered tape; stripe shaped tape; or sealing material, etc. Note cols. 4-6. Third, the object of Goehlich is to provide a cable which is used for *detecting* water in the interstices between the outer sheath and inner sheath. It required **interstice configuration** by the sensor and structured material.Fourth, the diameter of structured material is greater than the inner and outer sheath.

Again, the configuration, materials and structure of Applicant's cable are different and unobvious over Goehlich. The Examiner conceded that there is no disclosure of 1st layer containing adhesive in Chan. Page 6, 1st par; page 15, 1st par. of OA. The Examiner alleged that a POSA would modify Chan with the adhesive of Goehlich in order to achieve the 1st layer containing adhesive of the Applicant's cable. However, Goehlich disclosed adhesives from an **infinite list** of "structured material" Note cols. 4-6. There is no motivation or suggestion in the prior art to "**pick and choose**" an adhesive from a multitude of element configuration and then particularly use it for the purpose of obtaining the Applicant's cable. *In re Albrecht*, 435 F.2d 908, 911, 168 USPQ 293, 296 (CCPA 1971).

It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. "[one] cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fritch*, 23 USPQ 2d 1780 (Fed. Cir. 1992).

Belli et al. (U.S.6,455,769)

First, Belli uses "comprises" language and **required an "expanded layer which has a degree of expansion between 5% and 500%,** preferably from 10% to 200%. **This element property is not required in Applicant's cable.** The degree of expansion of the expanded layer according to Belli varies and depends on **both** the specific **polymer material** used and on the **thickness of the coating** which it is intended to obtain. The degree of expansion is predetermined to ensure that the radial forces of thermal expansion and contraction of the cable are elastically absorbed and, simultaneously, so as to maintain the semiconductive properties. Note Claim 2 and col. 2, lines 52-64; col. 3, lines 25-65. "Expanded polymer material" refers to a polymer material with a predetermined percentage of "free " space inside the material, i.e. of **space not occupied by the polymer but by a gas or air**. Col. 3, lines 33-38. Second, The expanded polymer layer **may or may not be crosslinked** and **selected from a broad list of polymers which can turn into an infinite list of polymers (hundreds of millions of polymers);** Cols.4-6). The preferred polymer is polyolefin polymer or copolymer based on ethylene and/or propylene. Third, the

expanded polymer is greater than the inside diameter of the metal shield. This is an **important property** in order to achieve a predetermined degree of precompression of the expanded layer, resulting in an optimum contact between expanded layer and metal shield. Col. 7, lines 43-55. Fourth, Belli employs fillers in combination with polymer which Applicant's cable avoids.

The Examiner conceded that there is no 2nd layer with swelling agent; page 8, 1st par; page 19, 2nd par. The Examiner alleged that a POSA would modify Chan with the swelling agent of Belli in order to achieve the 2nd layer based on polyethylene mix and a swelling agent of the Applicant's cable. **Applicants disagree**. First, there is no motivation or suggestion to substitute XLPE for LDPE as discussed above. Second, there is no motivation to "**pick and choose**" from an infinite number of "expanded layer." Third, the cable elements of Belli are **open ended** and **required expanded layer to have predetermined degree of expansion of between 5% and 500% which was not required in Applicant's cable.** The *only* teaching linking (nexus) the structure of Chan, Goehlich and Belli is found in the presently claimed invention. Moreover, even if the references did indicate that such modification might be tried, an *obvious-to-try* standard would be indicated, which is clearly *not* a sufficient basis for the rejection. It is submitted that the specified claimed modifications must be specifically motivated or suggested by the prior art.

Applicants submit that although the court in *In re Aller*, 105 USPQ 233 (CCPA 1955) sets out the rule that the discovery of an optimum value of a variable is normally obvious, courts have held that there are exceptions to this rule in cases where the results of optimizing a variable which was known to be result effective, were unexpectedly good. See *In re Waymouth*, 182 USPQ 290 (CCPA 1974); *In re Saether*, 181 USPQ 36 (CCPA 1974). Another exception is one in which the parameter optimized was *not* recognized to be a result effective variable. *In re Antoine*, 195 USPQ 6 (CCPA 1977). It further stated that §103 directs attention to the invention "**as a whole**" which includes not only to the subject matter which is literally recited in the claim in question but also **those properties of the subject matter *and* are disclosed in the specification and claimed with the transitional phrase "consisting of".** In this case, the invention "**as a whole**" includes optimum values such as the uniform circular cross section of 3.15± 0.03 mm diameter; 13.0 ± 0.10 mm 2nd layer diameter; external conductor thickness of 0.34 mm and the diameter on the pipe is 13.7 ± 0.10 mm diameter; adsorption speed and capacity of ≥ 15 ml/g per minute and over 30 ml/g; the external cover diameter on cover of 15.5 mm ± 0.10 mm with a 0.67 mm ± 0.02 mm thickness, which provide distinct unexpected properties and advantages over the cited references.

	Invention	Chan US 5,486,648	Belli US 6,455,769	Goehlich US 6,786,371
Claims (Cable Structure & elements)	*Claim 1.* A dry, water resistant coaxial cable **consisting** of: a) Metal core conductor (**11**) b) Dielectric element 1st layer (**12**) of low density polyethylene mixed with vinyl or acrylic adhesive; 2nd layer (**13**) based on expanded polyethylene mix consisting of low density polyethylene and swelling agent selected from azodicarbonamide, p-toluene sulphonylhydrazide, or 5-phenyltetrazol; optionally, reinforcement layer (**14**) of the same characteristics as 1st layer; External conductor (**15**) formed by a tape made of aluminum or copper alloy or combined with other elements surrounding conductor; Water penetration protective element (**16**) based on one or more swellable fibers or tapes formed by polyester threads or other swellable fibers; Protective cover (**17**) based on low, medium or high density polyethylene or combinations thereof	*Claim 1* An electrical power cable **having** concentric neutral wires (CN) (**6**) applied helically over a cable core construction extending in a longitudinal direction to provide a metallic ground shield, and having a protective polymeric jacket over said concentric neutral wires, characterized in that at least one continuous elongated water swellable element (**5**), chosen from a group consisting of yarn, filament, strand and strip, is provided in contact with the concentric neutral wires and is so disposed in relation to said concentric neutral wires as to block passage of water within the cable in the longitudinal direction. Figures Conductor (**1**) Semiconductor shield (**2**) Insulation layer (**3**) Semiconductivity insulation shield (**4**) Water swellable yarn (**5**) Concentric neutral wires (**6**) Encapsulating jacket (**7**)	*Claim 1.* Electrical cable **comprising**: conductor (**1**); at least one insulating layer (**3**); outer metal shield (**6**) and a layer of expanded polymer material (**5**) placed under metal shield; characterized in that the layer of expanded polymer material is semiconductive and includes water swellable material and wherein **the expanded layer material has a degree of expansion between 5% and 500%.** *Claim 2.* Cable according to claim 1 wherein the expanded layer has a predetermined degree of expansion so as to ensure elastic absorption of radial forces of thermal expansion and contraction of cable and maintain semiconductive properties. Figures Conductor (**1**) Inner semiconductive layer (**2**) optional Insulating Layer (**3**) Compact semiconductive layer (**4**) optional Expanded layer (**5**) Metal shield (**6**) Outer sheath (**7**)	*Claim 1* A cable **comprising** a cable core (**1**) an inner cable sheath (**2**) an outer sheath (**3**) a sensor (**4**); and a structured material between inner cable sheath and outer sheath arranged to allow any detectable substance entering entering between the inner cable sheath and the outer sheath to travel along the perimeter of the inner cable sheath to reach the sensor, the structured material configured to create at least one interstice between the inner cable sheath and the outer sheath, the at least one interstice being configured to collect at least a portion of the detectable substance and to be intersected by the sensor, the structured material configured to restrict travel of the detectable substance in a longitudinal direction of the cable to a short distance.
Core conductor	Core conductor (11)-copper plated aluminum wire with uniform circular cross section of 3.15±0.03 mm dia	Conductor (**1**) made of copper or aluminum	Conductor (1) Braided copper or aluminum	Copper wires
Key elements	All elements in Claim 1	Concentric neutral wires (**6**);	expanded layer material (**5**) has a degree of expansion between 5% and 500%	"structured material" and "sensor"
Material	**No fillers**; 1st layer (**12**) & 2nd layer(**13**) -low density polyethylene (LDPE); External conductor (15)-tape of Al or Cu alloy	Shield (**2**) and insulation (**3**)- crosslinked polyethylene elastomer (XLPE), ethylene propylene rubber (EPR), EVA	**Uses fillers**; **Infinite list** of expanded layer material (**5**)-Examples 1-4 list EVA-EPR, PVC,XLPE	(2) is plastic; (3) is metal or plastic; **Infinite list** of Structured material
Adsorption	≥ 15 ml/g/min speed; >30ml/g capacity	None	None	None